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EXAMINER

ELALLAM, AHMED

ART UNIT PAPER NUMBER

2616

DATE MAILED: 11/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/753,400

Applicant(s)

MESH ET AL.

Examiner

AHMED ELALLAM

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 July 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Responsive to Amendment filed on 07/29/2006. The Amendment has been entered.

Claims 1-20 are pending.

Claim Rejections - 35 USC § 112

1. Claims 19,12-16 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 19, the specification as originally filed does not describe the "at least two service ports, each receiving an incoming bit stream containing one service". In particular, the specification discloses only one service port as indicated on paragraph [0027].

First of all, all incoming traffic, received on a service port, is segmented. This means that the incoming bit stream is segmented into variable-length segments. The segments can be of predetermined fixed length for a particular kind of service or traffic, such as constant bit rate services, while the length of the segments for each service differs from one another.

In addition the drawing of figure 5 shows only one port.

Claims 12-16 depends from claim 19, thus they are subject to the same rejections.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1, 3, 4, 7-10, 12-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Ravikanth, US (6,331,978).

Regarding claim 17, Ravikanth discloses a method for packet processing for data transmission over an optical fiber, the method comprising:

receiving a data stream of variable size packets, the packets may be Ipv4 or IPv6 packets or they may be based on any other network layer protocol, see column 5, lines 39-41. (Examiner interpreted the data stream of variable size

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packets to read on the claimed receiving at least two incoming bit streams of data, because the data stream comprising different packet protocol and packet length suggest that the packets come from different sources and therefore from different data bit streams prior to being "multiplexed into one data stream, claimed receiving at least two incoming bit streams of data containing one service);

adding a label to the front of a datagram, see column 3, lines 30-35.

(Claimed adding a tag to a header of each segment, each tag including data identifying a route between a source and destination). (Examiner interpreted the label as the claimed tag, and the datagram as the segment), Ravikanth discloses a data stream of variable size packets, the packets may be Ipv4 or IPv6 packets or they may be based on any other network layer protocol, see column 5, lines 39-41. (Claimed segmenting bit segment of variable length, since IP packets can have datagram of different length as suggested by the different size packets). (Examiner also interpreted the presence of datagram is preceded by a form of segmentation of a bit stream of data of at least one service).

Ravikanth further discloses that SONET is used for data transmission over optical fiber, see column 1, lines 19-22. (Claimed processing each tagged segments from said bit streams into a single transmission frame, Examiner interpreted the SONET frames are used for the transmission of the datagrams as the claimed single transmission frame);

Regarding claim 1, In addition to the above Ravikanth further discloses that packet over SONET/SDH uses PPP encapsulation, see column 5, lines 14-

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17, (Examiner interpreted the packet as been the datagram with the label (claimed segment with the tag)), see column 5, lines 34-38. (Claimed encapsulating tagged segment into a point-point protocol (PPP) packet in a frame); Ravikanth further discloses that SONET is used for data transmission over optical fiber, see column 1, lines 19-22. (Claimed mapping the encapsulated packet into a transmission frame for transmission over an optical fiber).

Regarding claims 3 and 4, Ravikanth discloses using packet over SONET/SDH, see column 5, lines 14-17. (Claimed transmission frame is a Packet over SONET frame as in claim3; and the transmission frame is a Packet over SDH frame , as in claim 4).

Regarding claim 7, Ravikanth discloses scrambling the payload of the packet, see column 5, lines 39-48. (Claimed scrambling the encapsulated packet before the step of mapping into a transmission frame).

Regarding claim 8, Ravikanth as discussed above, discloses adding a label to the front of a datagram, see column 3, lines 30-35, the label being an MPLS, see column 5, lines 52-56.

Regarding claim 9, claim 9 is rejected by way of symmetry since it has all the reverse steps of base claim 1.

Regarding claim 10, claim 10 has the step of de-scrambling, since the payload was scrambled (as indicated in claim 7), the reverse step of de-scrambling is necessary to recreate the original datagram.

Regarding claim 18, Ravikanth discloses that point-to-point protocol is deployed for new packet services see column 2, lines 1-9. (Since Ravikanth

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implicitly discloses receiving datagram of multiple services as suggested by the use of PPP links, see column 5, lines 14-17). (Claimed incoming bit stream of data comprises at least two different services).

Regarding claims 12 and 19, Ravikanth discloses the functions of claims 12 and 19 as discussed above with reference to respective claim 1 and 17, inherently Ravikanth has the corresponding module to implement them.

Regarding claim 13, Ravikanth as indicated above discloses encapsulating the labeled datagram using a PPP protocol framing.

Regarding claims 14 and 15, Ravikanth discloses using packet over SONET/SDH, see column 5, lines 14-17. (Claimed transmission frame is a Packet over SONET/SDH frame.

Regarding claim 16, Ravikanth disclose adding a label to the front of a datagram, wherein the label is MPLS label. See column 3, lines 30-35. (Claimed add MPLS tag to a header of each segment).

Regarding claim 20, Ravikanth disclose adding a label to the front of a datagram, wherein the label is MPLS label. See column 3, lines 30-35. Ravikanth further discloses that in addition to the MPLS label identifier, fields like MAC bits, Class of Service bits may be included, see column 5, lines 55-59. (Examiner interpreted the feature of having MPLS fields of different type services provide for the flexibility to be implemented for data streams having the same service).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2, 5, 6, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ravikanth US (6,331,978) in view of Ndousse et al, PPP Extensions for IP/PPP-HDLC over SONET-SDH/WDM, IEEE, 1999, pages 575-580.

Regarding claim 2, Ravikanth as indicated above discloses encapsulating the labeled datagram using a PPP protocol framing.

Ravikanth fails short of specifying that the PPP is a High bit rate Digital Link Control (HDLC). (Claimed tagged segment is encapsulated into PPP packet in a high bit rate Digital Link Control (HDLC)-like frame).

However, Ndousse discloses that encapsulating datagram into a PPP-HDLC frames is a preferred encapsulation mechanism. See left column, page 576, and first paragraph.

Therefore, it would have been obvious to an ordinary person of skill in the art, to use the PPP-HDLC encapsulation taught by Ndousse instead of the PPP of Ravikanth so that Ravikanth's system can be used for 802.3 LAN traffic (Ndousse). The advantage would be the ability to apply Ravikanth's

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encapsulation to Ethernet traffic for transport over fiber optics using SONET/SDH standards (Ndousse).

Regarding claims 5 and 6, Ravikanth discloses using packet over SONET/SDH, see column 5, lines 14-17. (Claimed transmission frame is a Packet over SONET frame as in claim 5; and the transmission frame is a Packet over SDH frame, as in claim 6).

Regarding claim 11, as discussed above with reference to dependent claims 2 and 5, Ravikanth in view Ndousse discloses encapsulating a labeled datagram in a PPP-(HDLC)-like using packet over SONET frames. However, Ravikanth in view Ndousse do not explicitly discloses the steps of de-packing, de-capsulating, stripping and assembling the datagram (segment). However Ravikanth in view Ndousse would naturally recognize the need to do these steps since they are inherently the reverse steps implemented on the datagram. Such steps are needed to recover the original data stream.

Response to Arguments

5. Applicant's arguments filed 07/29/2006 have been fully considered but they are not persuasive:

Applicants argue on page 9 of the Remarks *"The patent to Ravikanth relates to a generic label encapsulation protocol for carrying IP packets (packet-based services). This protocol utilizes datagrams, which are pre- formed conventional data packets. While the presence of a datagram indicates formation of packets of at least one service, Ravikanth does not disclose or suggest*

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receiving two or more incoming bit streams, each including one service, and segmenting the bit streams in their original protocols into variable length segments, before adding an identifying tag and processing the segment for transmission. On the contrary, the packet based services which are provided as datagrams in Ravikanth can be segmented according to the claimed invention and formed into the specialized packets of the invention, alone or with other types of services". Emphasis added.

Examiner traverse Applicants' argument in that reference to Ravikanth datagrams that are "*pre-formed conventional data packets*" actually reads on Applicants data streams segments. In fact the bit stream of Applicants includes pre-formed segments "i.e. packets" as evidenced by the disclosure, for example the specification discloses having Ethernet frames data in the received bit streams, the segmentation of the bit stream is understood to be a form of isolating the Ethernet frames from the bit streams (claimed segmentation), wherein the Ethernet frame may have already pre-formed lengths, see specification paragraph [0027]. Therefore, the datagrams of Ravikanth do correspond to the segments of variable length of the Applicants.

Ravikanth further discloses adding a label to the front of a datagram, wherein the label is MPLS label. See column 3, lines 30-35, and in addition to the MPLS label identifier, fields like MAC bits, Class of Service bits may be included, see column 5, lines 55-59. Therefore contrary to Applicants' argument, the label addition to each variable length datagram along the Class of Service implies that the datagram are tagged in addition of the distinction of different class of service

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for each datagram. As to the argument that *"Ravikanth does not disclose or suggest receiving two or more incoming bit streams, each including one service"*. Examiner respectfully disagrees, the class of service addition to the labeled datagrams suggest that datagrams each correspond to service should belong to a different data stream prior to the "segmentation" of Ravikanth. While Applicants may argue that Ravikanth only discloses one bit stream, the presence of different class of service segments within the one bit stream suggest that the one bit stream of Ravikanth may be subjected to multiplexing of different bit streams each having at least one service into the one bit stream prior to "segmentation". A person of skill in the art would recognize that different sources of traffic classes (claimed at least two bit streams each having one service) are within the teaching of Ravikanth as evidenced by the presence of class of service indication along different length datagrams. Therefore and contrary to Applicants' argument Ravikanth does teach *"receiving two or more incoming bit streams, each including one service, and segmenting the bit streams in their original protocols into variable length segments, before adding an identifying tag and processing the segment for transmission"*.

On page 9, Applicants provided a chart for arguing that:

"Ravikanth deals only with Ethernet services which are sent via IP protocol. He cannot include voice services, video streaming services, storage services, or fiber channel services, for example, since they are not label switched packets. Thus, he can send Ethernet services from any protocol layer (e.g., IP,

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MPLS), but not different services." Emphasis added. Applicants further argue in the last paragraph of page 9 that:

"The claimed invention, on the other hand, is a method for multiplexing (combining together) a plurality of different bit streams and services into a single packet. Thus, segments of bit streams of voice services can be combined with segments of bit streams of video streaming services and with segments of bit streams of Ethernet services". Emphasis added.

Examiner notes that Applicants' arguments with regard to the feature of *"multiplexing (combining together) a plurality of different bit streams and services into a single packet"*, is neither claimed nor described, further the argument that *"segments of bit streams of voice services can be combined with segments of bit streams of video streaming services and with segments of bit streams of Ethernet services"* are not related to the claimed subject matter.

Applicants are kindly requested to provide reference of the chart relied upon to be valid evidence and not of Applicants' own conclusion. The reasons behind this request is that MPLS (Multi-protocol label switching) is defined contrary to the chart provided. For example one definition of the MPLS is given as: **(MultiProtocol Label Switching)** A standard from the IETF for including routing information in the packets of an IP network. MPLS is used to ensure that all packets in a particular flow take the same route over a backbone. Deployed by many telcos and service providers, MPLS can deliver the quality of service (QoS) required to support realtime voice and video as well as service level agreements

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(SLAs) that guarantee bandwidth. Large enterprises may also use MPLS in their national networks. (See <http://www.answers.com/topic/mpls>).

Applicants argue that: "The Ndousse article on PPP Extensions examines the dynamics of IP traffic over SONET/SDH using PPP in HDLC- like framing. There is no disclosure or suggestion in Ndousse of the method of forming specialized packets from two or more bit streams, as claimed in amended claim 17".

Emphasis added.

Examiner respectfully disagrees, Examiner notes that Ravikanth as indicated above does teach the forming specialized packets (labeled datagrams) from two or more bit streams, and that Ndousse does not need to teach what is already taught by Ravikanth, Ndousse was used to complement Ravikanth of not explicitly teaching encapsulating datagram into a PPP-HDLC frames, however Ndousse provide such feature and a prima facie case of obviousness is believed to be properly established as indicated in the rejections above.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: See Form PTO-892.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.**

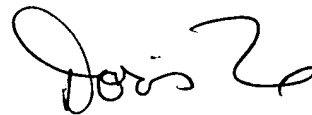
See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

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A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AHMED ELALLAM whose telephone number is (571) 272-3097. The examiner can normally be reached on 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, To Doris can be reached on (571) 272-7629. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



DORIS H. TO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A. ELALLAM
Examiner
Art Unit 2616
October 28, 2006